

Refer to 1-A01-PPG-001 for Processing Instructions.
Print or Type All Information (Except Signatures).

1 Date 04/11/95		25 DMR No. 95-DMR-000324	
2 Existing Document Number/Revision 975-ER-DM-01		3 New Document Number or Document Number if it is to be changed with this Revision	
4 Originator's Name/Phone/Pager/Location Kevin Kretsch/6975/D5532/Bldg 080		5 Document Title RFEDS Configuration Control	
6 Document Type <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Other		7 Document Modification Type (Check only one) <input type="checkbox"/> New <input type="checkbox"/> Revision <input type="checkbox"/> Intent Change <input checked="" type="checkbox"/> Nonintent Change <input type="checkbox"/> Editorial Correction <input type="checkbox"/> Cancellation	
8 Item	9 Page	10 Step	11 Proposed Modifications
1.	5	4	Definition of hardware platform Revise to read ... "and desk top computers which are operated within the Data Management Organization."
2	5, 9, 10, 8 11-10-95 4-26-95	N/A	Consistently refer to "The Master Configuration Control Revision Index"
12 Justification (Reason for Modification, EJO #, TP #, etc.) Item 1 Clarifies the Intent of this document. Item 2 provides consistency			
DOCUMENT CLASSIFICATION REVIEW WAIVER PER CLASSIFICATION OFFICE			
If modification is for a new procedure or a revision, list concurring disciplines in Block 13, and enter N/A in Blocks 14 and 15. If modification is for any type of change or a cancellation, organizations are listed in Block 13, then Concurror prints, and signs in Block 14, and dates in Block 15			
13. Organization	14. Print, Sign (if applicable)		15. Date (if applicable)
DM	K.M. Kretsch		4/12/95
DM	C.E. Daily		4/11/95
DM&RS	K. Bentzen		4/24/95
EQS	R. Luker		4-24-95
TRAINING - Not Required			
16 Originator's Supervisor (print/sign/date) C. E. Daily			
17 Assigned SME/Phone/Pager/Location C. S. Flye / 8726 / 5529 / 080		18 Cost Center 03115	19 Charge Number 989956
20 Requested Completion Date		21 Effective Date 5/1/95	
22 Accelerated Review? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		23 ORC Review N/A	
24 Responsible Manager (print/sign/date) G. DETERS			

Received for distribution on 4/26/95

REVIEWED FOR CLASSIFICATION / UCNI
BY _____
DATE _____

Rocky Flats

Environmental Technology Site

3-Q75-ER-DM-01

REVISION 0

RFEDS CONFIGURATION CONTROL

APPROVED BY: Kaye Bentzen / KAYE BENTZEN / 12-31-95
 Program Manager Print Name Date
 Data Management and Reporting Services

Stephen Luker / S. LUKER / 3-30-95
 Quality Assurance Print Name Date
 Program Manager.
 Data Management and Reporting Services

DOE RFFO/ER Concurrence on file: ☐ Yes ☐ No ☒ NA

Environmental Protection Agency Approval Received: ☐ Yes ☐ No ☒ NA

Responsible Organization: Environmental Restoration Program Division Effective Date: 4/13/95 ^{for} ₂₁₀

CONCURRENCE BY THE FOLLOWING DISCIPLINES WILL BE DOCUMENTED IN THE
 PROCEDURE HISTORY FILE:

Data Management and Reporting Services

USE CATEGORY 3

ORC review not required

The following have been incorporated in this revision:
 95-DMR-002268

Periodic review frequency: 3 years from the effective date

DOCUMENT CLASSIFICATION
 REVIEW WAIVER PER
 CLASSIFICATION OFFICE

LIST OF EFFECTIVE PAGES

<u>Pages</u>	<u>Effective Date</u>	<u>Change Number</u>
1-12	1/13/95	Original

TOTAL NUMBER OF PAGES:

~~12~~ 11 ^{due?} 4/11/96

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
TITLE PAGE	1
LIST OF EFFECTIVE PAGES	2
TABLE OF CONTENTS	3
1. PURPOSE	4
2. SCOPE	4
3. OVERVIEW	4
4. DEFINITIONS	5
5. REQUIREMENTS	7
6. RESPONSIBILITIES	7
6.1 Configuration Control Administrator	7
6.2 Software Developer (functional title)	7
6.3 User	7
6.4 User System Manager	7
7. INSTRUCTIONS	8
7.1 Modifications	9
7.2 New Applications	10
7.3 Other Changes	11
8. RECORDS	11
9. REFERENCES	11

1. PURPOSE

This procedure provides the requirements and instructions to maintain configuration control of the Rocky Flats Environmental Database System (RFEDS). This procedure supports system development requirements defined in 2-G24-ER-ADM-19.01, Environmental Restoration Program Division (ERPD) Software Management Plan (SMP) and establishes configuration controls for the RFEDS.

This procedure implements applicable requirements as stated in:

- Rocky Flats Plant Quality Requirement (QR-19), Software Quality Assurance.
- Environmental Management Quality Assurance Program Description (QAPD).
- 1-45000-CSM-001, Computer Software Management.
- 2-G24-ER-ADM-19.01, Environmental Restoration Program Division Software Management Plan

This procedure follows the guidance provided in the Institute of Electrical and Electronics Engineers (IEEE) Std. 828-1990, Software Configuration Management Plans.

2. SCOPE

This procedure applies to Rocky Flats Environmental Technology Site (Rocky Flats) employees responsible for maintaining or developing RFEDS developed software, RFEDS databases, commercial software, and computer hardware.

This procedure governs configuration control of RFEDS application programs, defined sets of code used in the RFEDS, RFEDS database management systems, database structures used to support the RFEDS, and the hardware platforms supporting the RFEDS.

3. OVERVIEW

Configuration management is established to:

- Ensure orderly control of developmental software configuration and associated documentation prior to release to the production environment.
- Ensure an orderly transition from the development environment to the production environment.
- Control all changes to production hardware and software configuration and associated documentation.
- Maintain detailed records and inventory status of all hardware and software configuration and associated documentation.

The Configuration Control Administrator monitors, oversees, and ensures implementation of configuration control for RFEDS. Specific responsibilities and instructions for the Configuration Control Administrator, User System Manager, Software Developers, and others involved in configuration management are provided below.

The two levels of change that can be made to RFEDS are: a major modification and a minor modification. Modifications are developed through the methods specified in the SMP. The System Change Request (SCR) forms document the initiation of a modification.

3. **OVERVIEW (continued)**

The configuration of each major and minor modification is documented and archived using a unique identifying number. Effected application program code, database structures, and data are archived whenever a major or minor modification is made. In this way the applications, database structures, and data can be recreated at any point in time if a historical analysis becomes necessary.

4. **DEFINITIONS**

Configuration Item. A discrete entity, unique in terms of functional performance and identification, that is configuration controlled. A configuration item may be an application program, a defined set of code, the Master Configuration Control Revision Index, a database management system, a database structure, commercial software or the hardware platform supporting an application.

Configuration Control Number. A unique six character number assigned to each configuration item. The Configuration Control Number consists of three sets of two digit numbers separated by periods. The three numbers are:

- configuration item identification number
- major modification number
- minor modification number

Control Point. An agreed upon point of the development or installation process when outputs are reviewed for adequacy. The progression of development or installation may not proceed until a satisfactory review is completed. The information from this review will be the basis for a decision to proceed or will require corrective action. Software development control points are defined in the Software Management Plan, 2-G24-ER-ADM-19.01.

Hardware Platform. Hardware platforms include mainframe computers, servers, terminals and desktop computers which are operated within the Data Management Organization.

Master Configuration Control Revision Index. The master configuration control revision index provides a listing of:

- Configuration item name
- Unique configuration control number
- Description of each modification
- Date of installation
- Date of documentation audit
- Hardware platform in use
- Operating system and version in use
- Vendor software and version in use
- Software change request number (if applicable)
- Software developer's name (if applicable)

4. **DEFINITIONS (continued)**

Major Modification. A major modification is defined as a change that requires greater than 20 developer hours to implement. Major modifications normally include planned development work and are documented using SMP methodology that normally includes an SCR, a functional requirements document, and test plan. Major modifications are documented in the configuration control listing and result in an integral, sequential increase in the middle two digits of the configuration control number, and the return of the last two minor version digits to zeros.

Minor Modification. A minor modification is defined as a change that requires less than 20 developer hours to implement. Bug fix modifications are generally considered minor. A minor modification is documented using the SCR form and results in an integral, sequential increase in the last two digits of the configuration control number.

Release. The formal notification and distribution of an approved version.

System Change Request. The System Change Request form documents all problems reported and requests for changes. It also provides a record of the actions taken.

5. **REQUIREMENTS**

This procedure implements the configuration control requirements of the following documents:

- EG&G Rocky Flats Quality Assurance Manual, Quality Requirement QR-19, Software Quality Assurance.
- Environmental Management Quality Assurance Project Description (QAPD)
- 1-45000-CSM-001, Computer Software Management
- 2-G24-ER-ADM-19.01, ERPD Software Management Plan

6. RESPONSIBILITIES

6.1 Configuration Control Administrator

Performs or initiates baseline assessments of computer system databases and application programs to define an initial system revision release configuration.

Provides proper, effective configuration control of application programs, operating systems, commercial software, computer hardware, and database structures. Archives applications, databases, and instructions prior to installation of new or modified applications.

Ensures that all configuration changes are properly reviewed, tested, and approved, as required, prior to installation for routine production use.

Coordinates all configuration change production releases with affected user organizations in a manner that minimizes impact on existing data management operations.

Maintains the master system configuration control documentation that provides a current revision listing of all approved production applications, database management systems, operating systems, database structures, and RFEDS commercial software.

6.2 Software Developer (functional title)

Provides the Configuration Control Administrator with a development schedule.

Performs system development and testing in accordance with industry standard software development practices.

Maintains a project status file of software development records as they are generated.

Assists the Configuration Control Administrator in providing positive configuration control of configuration items.

6.3 User

Recommends RFEDS modifications to the Configuration Control Administrator, the User System Manager, or the Software Developer.

6.4 User System Manager

Represents the interests of the User during configuration item procurement or development.

Solicits information from computer system users to accurately determine their needs.

Acts as the primary interface between the Rocky Flats Software Management Review Board and the operating organization regarding software or hardware activities.

7. INSTRUCTIONS

User

- [1] **WHEN** the need for a:
- new database application
 - new or upgraded operating system
 - new hardware
 - modification of the output from an existing database application
 - change in the structure of an existing database
 - new or upgraded commercial software
- is identified,
THEN initiate a System Change Request.

The System Change Request is located in Appendix 5 of 2-G24-ER-ADM-19.01, Software Management Plan.

- [2] Transmit the System Change Request form to the Configuration Control Administrator.

Configuration Control Administrator

- [3] **WHEN** a System Change Request is received,
THEN evaluate the request for possible duplication of an existing application output.
- [4] **IF** the request can be filled by an existing application,
THEN provide the originator with instructions for getting the information from the existing application.
- [5] **IF** the request can be filled by making a modification to an existing application,
THEN proceed with step 7.1, Modifications.
- [6] **IF** the request requires the construction of a new application,
THEN proceed with step 7.2 New Applications
- [7] **IF** the request requires the modification of a hardware platform,
THEN proceed with step 7.3 Other Changes

7. INSTRUCTIONS (continued)

7.1 Modifications

Configuration Control Administrator

- [1] Assign a Software Change Request Number to the System Change Request that indicates the next change number for the application.
- [2] Update the Master Configuration Control Revision Index to show the proposed revision.
- [3] Forward the System Change Request to the User System Manager for action in accordance with 2-G24-ER-ADM-19.01, Software Management Plan.

User System Manager

- [4] Process the System Change Request in accordance with 2-G24-ER-ADM-19.01, Software Management Plan.

Software Developer

- [5] Review the System Change Request and schedule the software development, testing, installation, and production.
- [6] Develop the application as requested.
- [7] Deliver the completed application to the User System Manager.

User System Manager

- [8] Monitor the progress of the modification.
- [9] **WHEN** the modification has been completed **AND** tested,
THEN submit the changed application to the Configuration Control Administrator for evaluation.

Configuration Control Administrator

- [10] **WHEN** the software is ready for use,
THEN
 - Verify that all documentation is complete.
 - Archive the previous version.
 - Assign a Configuration Control Number to the new version of the application.
 - Install the new version of the application on the server.
 - Distribute instructions for the use of the new version to all users.
 - Update the Master Configuration Control Revision Index.

95-DMR-000324

95-DMR-000324

7. INSTRUCTIONS (continued)

7.2 New Applications

Configuration Control Administrator

- [1] Update the Master Configuration Control Revision Index to show the proposed new application.
- [2] Assign the next sequential Software Identification Number to the System Change Request.
- [3] Forward the System Change Request to the User System Manager for action in accordance with 2-G24-ER-ADM-19.01, Software Management Plan.

User System Manager

- [4] Process the system change request in accordance with 2-G24-ER-ADM-19.01, Software Management Plan.

Software Developer

- [5] Review the System Change Request and schedule the software development, testing, installation, and production.
- [6] Develop the application to perform as requested.
- [7] Deliver the completed application to the User System Manager.

User System Manager

- [8] Monitor the progress of the development of the new application.
- [9] **WHEN** the application is complete and has been tested,
THEN submit the new application to the Configuration Control Administrator for processing.

Configuration Control Administrator

- [10] **WHEN** the software is ready for use,
THEN:
 - Verify that all documentation is complete.
 - Archive the the previous version of the RFEDS.
 - Install the new application on the server.
 - Distribute instructions for the use of the new version to all users.
 - Update the Master Configuration Control Revision Index.

7. INSTRUCTIONS (continued)

7.3 Other Changes

Configuration Control Administrator

[1] IF

- The database structure has been changed by a modification to an application or by a new application
- New or upgraded commercial software is installed
- A new or upgraded operating system is installed
- hardware is changed

THEN

- update the Configuration Control Number for the affected item
- verify that all documentation is complete
- verify that all applications and the database structure have been archived
- Update the Master Index

8. RECORDS

Management of all records is consistent with 1-77000-RM-001, Records Management Guidance for Records Sources.

Configuration Control Administrator

[1] Ensure that the original and one copy, as required, of the following quality-related records, as appropriate, are transmitted to the ERPD Project File Center in accordance with 2-G18-ER-ADM-17.01, Records Capture and Transmittal:

- Master Configuration Control Revision Index (hard copy)
- System Change Request
- Configuration Item documentation (for example, application program, commercial software or the hardware platform supporting an application, database structure)

Submission of record copies to the ERPD Project File Center is in accordance with Administrative Records requirements, as defined in 2-S65-ER-ADM-17.02, Administrative Records Document Identification and Transmittal.

There are no nonquality records generated by this procedure.

9. REFERENCES

1-45000-CSM-001, Computer Software Management

1-77000-RM-001, Records Management Guidance for Records Sources

2-G18-ER-ADM-17.01, Records Capture and Transmittal

2-G24-ER-ADM-19.01, Environmental Restoration Program Division Software Management Plan

2-S65-ER-ADM-17.02, Administrative Records Document Identification and Transmittal